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EXAMINER

WAITS, ALAN B

ART UNIT

PAPER NUMBER

3656

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/539,594	Applicant(s) HEBENSTREIT ET AL.	
	Examiner ALAN B. WAITS	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11, 13-18 and 22-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11, 13-18 and 22-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The request filed on April 8, 2010 for a Continued Examination (RCE) is accepted and a continued prosecution application has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11, 13-18, 21 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld USP 6892602 in view of Cooper USP 3877319.

Hirschfeld discloses a similar device comprising:

Re clm 11

- A steering spindle (3, fig 1) which is mounted in a casing tube so as to be rotationally movable
- A switch module (10, fig 1) which is held immovably with respect to the rotational movement of the steering spindle and is fixed radially and axially on the casing tube
- The switch module is supported on a bearing arranged on the steering spindle (fig 1)

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- The switch module comprises a centering device (11, 13, 19 and 20, fig 1) which, under a force which is oriented coaxially with respect to the longitudinal axis of the steering spindle, fixes the switch module on the casing tube and clamps the switch module radially
- The centering device comprising a stator (11, fig 1) and clamping jaws (13, fig 1)

Hirschfeld does not disclose:

- An elevation protrudes toward the casing tube in a substantially radial direction from a central portion of a first face of a first clamping jaw that faces the casing tube
- The elevation contacting an outermost surface of the casing tube and centering the switch module

Cooper teaches a similar steering column assembly including an elevation (78, fig 4) protruding in a substantially radial direction from a central portion of a member (72, fig 3) that acts to center elements in the steering column (col 3, ln 52-59).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- An elevation protrudes toward the casing tube in a substantially radial direction from a central portion of a first face of a first clamping jaw that faces the casing tube
- The elevation contacting an outermost surface of the casing tube and centering the switch module

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for the purpose of aligning and centering members of the steering column.

Re clm 13

- The stator is connected to the bearing (18, fig 1)

Re clm 14 and 15

- The stator is connected to each clamping jaw via a spring element (19, fig 1)

Re clm 16

- Each clamping jaw is in contact with the casing tube by way of a support (14, fig 1)

Re clm 21

- The axial force is applied by means of a steering wheel bolt (fig 1)

Re clm 30

- The first face of the clamping jaw is spaced apart from the outermost surface of the casing tube based upon an amount of protrusion of the elevation from the first face of the first clamping jaw (Cooper's elevation would restrict the amount of force the spring of Hirschfeld could apply, thereby limiting the space based on the height of Cooper's elevation)

Re clm 17 and 18

Hirschfeld further discloses:

- A second face of the first clamping jaw faces away from the casing tube and toward the stator (fig 1)

Although Hirschfeld does disclose two members with obliquely extending surfaces (where 3 and 5 meet close to 7, fig 1), Hirschfeld does not disclose:

- Said second face extends obliquely with regard to the longitudinal axis of the steering spindle
- The inner face of the stator extends parallel to the oblique face of the clamping jaw

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- Said second face extends obliquely with regard to the longitudinal axis of the steering spindle
- The inner face of the stator extends parallel to the oblique face of the clamping jaw

for the purpose of radially aligning the switch module relative to the casing tube as well as providing a very rigid joint.

4. Claims 22, 23-25, 27, 28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld USP 6892602 in view of Pilatzki USP 4368454.

Hirschfeld discloses a similar device comprising:

Re clm 22

- A steering spindle (3, fig 1) which is mounted in a casing tube so as to be rotationally movable

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- A switch module (10, fig 1) which is held immovably with respect to the rotational movement of the steering spindle and is fixed radially and axially on the casing tube
- The switch module is supported on a bearing arranged on the steering spindle (fig 1)
- The switch module comprises a centering device (11, 13, 19 and 20, fig 1) which, under a force which is oriented coaxially with respect to the longitudinal axis of the steering spindle, fixes the switch module on the casing tube and clamps the switch module radially
- The centering device comprising a stator (11, fig 1) and clamping jaws (13, fig 1)

Hirschfeld does not disclose:

- A leaf spring, which is separate from the casing tube, engages in a cut-out of the casing tube and is fastened in a recess in an inner wall of the stator
- The cut-out provides an opening in the casing tube through which the leaf spring protrudes radially toward the steering spindle

Pilatzki teaches a steering column comprising:

- A leaf spring (11, fig 5) engages in a cut-out (14, fig 5) and is fastened in a recess (between 15 and 8, fig 5)
- The cut-out provides an opening through which the leaf spring protrudes radially (fig 5)

for the purpose of providing a movable coupling mechanism (col 3, ln 5-10).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- A leaf spring, which is separate from the casing tube, engages in a cut-out of the casing tube and is fastened in a recess in an inner wall of the stator
- The cut-out provides an opening in the casing tube through which the leaf spring protrudes radially toward the steering spindle

for the purpose of providing a movable coupling mechanism.

Re clm 23

- Each clamping jaw is in contact with the casing by way of a support (14, fig 1; Hirschfeld)

Re clm 27

- The axial force is applied by means of a steering wheel bolt (fig 1; Hirschfeld)

Re clm 28

- A control pin fastened to an outer side of the leaf spring (pins that anchor 11 into place, fig 8)

Re clm 31

- A center region of the leaf spring has a concave configuration (fig 5)

Hirschfeld further discloses:

Re clm 24 and 25

- A first face of a first clamping jaw faces the stator

Although Hirschfeld does disclose two members with obliquely extending surfaces (where 3 and 5 meet close to 7, fig 1), Hirschfeld does not disclose:

- Said first face extends obliquely with regard to the longitudinal axis of the steering spindle
- The inner face of the stator extends parallel to the oblique face of the clamping jaw

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- Said first face extends obliquely with regard to the longitudinal axis of the steering spindle
- The inner face of the stator extends parallel to the oblique face of the clamping jaw

for the purpose of radially aligning the switch module relative to the casing tube as well as providing a very rigid joint.

5. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld USP 6892602 in view of Pilatzki USP 4368454 as applied to claim 25 above, and further in view of Cooper USP 3877319.

Hirschfeld in view of Pilatzki disclose all the claimed subject matter as described above.

Hirschfeld in view of Pilatzki does not disclose:

Re clm 26

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- An elevation protrudes from a second face of the first clamping jaw which faces the casing tube

Cooper teaches a similar steering column assembly including an elevation (78, fig 4) protruding in a substantially radial direction from a central portion of a member (72, fig 3) that acts to center elements in the steering column (col 3, ln 52-59).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- An elevation protrudes from a second face of the first clamping jaw which faces the casing tube

for the purpose of aligning and centering members of the steering column.

6. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld USP 6892602 in view of Pilatzki USP 4368454 as applied to claim 22 above, and further in view of Budaker USP 6830267.

Hirschfeld in view of Pilatzki disclose all the claimed subject matter as described above.

Hirschfeld in view of Pilatzki does not disclose:

Re clm 28

- A control pin fastened to an outer side of the leaf spring

Budaker teaches controlling a leaf spring in a steering column comprising:

- A control pin (15, fig 2) fastened to an outer side of the leaf spring (1, fig 2)

for the purpose of manually controlling the operation of the leaf spring.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld in view of Pilatzki and provide:

- A control pin fastened to an outer side of the leaf spring

the purpose of manually controlling the operation of the leaf spring.

Re clm 29, Budaker further discloses

- The control pin projects through the switch module to a trim panel of the steering column arrangement (fig 1)

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld USP 6892602 in view of Cooper USP 3877319 as applied to claim 11 above, and further in view of Wilson USP 6131481.

Hirschfeld in view of Cooper discloses all the claimed subject matter as described above.

Hirschfeld further discloses:

Re clm 32

- Spring elements (19, fig 1) that provide an axial force on the clamping jaws

Hirschfeld in view of Cooper does not disclose:

- Spring elements that are recessed into the stator

Wilson teaches spring elements of a steering column that are recessed into another element (fig 7) for the purpose of protecting the spring elements and preventing axial deflection of the spring elements.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- Spring elements that are recessed into the stator

for the purpose of protecting the spring elements and preventing axial deflection of the spring elements.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirschfeld USP 6892602 in view of Pilatzki USP 4368454 as applied to claim 22 above, and further in view of Wilson USP 6131481.

Hirschfeld in view of Pilatzki discloses all the claimed subject matter as described above.

Hirschfeld further discloses:

Re clm 33

- Spring elements (19, fig 1) that provide an axial force on the clamping jaws

Hirschfeld in view of Pilatzki does not disclose:

- Spring elements that are recessed into the stator

Wilson teaches spring elements of a steering column that are recessed into another element (fig 7) for the purpose of protecting the spring elements and preventing axial deflection of the spring elements.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Hirschfeld and provide:

- Spring elements that are recessed into the stator

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for the purpose of protecting the spring elements and preventing axial deflection of the spring elements.

Response to Arguments

9. Applicant's arguments with respect to claims 11, 13-18 and 21-33 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mercier USP 2580118 discloses a similar obliquely shaped sleeve.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN B. WAITS whose telephone number is (571)270-3664. The examiner can normally be reached on Monday through Friday 7:30 am to 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan B Waits/
Examiner, Art Unit 3656

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3656